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Office Action Summary	Application No.	Applicant(s)
	09/555,168	KATO ET AL.
	Examiner	Art Unit
	Joseph Leyson	1722

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 21 August 2002.

2a) This action is **FINAL**. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1,2,14-17,20,22,24 and 27-35 is/are pending in the application.

4a) Of the above claim(s) 1,2 and 14-17 is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 20,22,24 and 27-35 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.

2. Certified copies of the priority documents have been received in Application No. _____.

3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s) _____
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>5</u> .	6) <input type="checkbox"/> Other: _____

1. Applicant's election of Group II, apparatus claims 20, 22, 24 and 27-35, in Paper No. 7 filed on 21 August 2002 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

2. The disclosure is objected to because of the following informalities:

The title should be amended to reflect the elected invention, i.e. apparatus only.

The disclosure (pp. 2-27) is replete with references to the instant claims. These references should be removed because the subject matter and numbering of the claims can change during the prosecution thereof, and these references should be replaced with the corresponding subject matter referenced in the claims. No new subject matter should be entered.

The disclosure bridging pp. 12 and 13 appears to have missing text. No new subject matter should be entered. If text is added, applicant should state from where in the originally filed specification the text is taken, i.e., from originally filed claim 19.

Appropriate correction is required.

3. This application does not contain an abstract of the disclosure as required by 37 CFR 1.72(b). An abstract on a separate sheet is required.

4. Claims 20, 22, 24 and 27-35 are objected to because of the following informalities: In claim 20, "characterizing that" should be changed to --characterized in that-- for proper idiomatic language. Appropriate correction is required.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 20, 22, 24 and 27-35 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 20, line 7, "the" should be changed to --a--; line 8, "the" should be changed to --an--; line 10, "the" should be changed to --a--; line 12, "the" should be changed to --an--; line 19, "the" should be changed to --a--; and line 20, "the" should be changed to --a--, for proper antecedent basis.

In line 3 of each of claims 27-35, "the" should be changed to --a--, for proper antecedent basis.

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In claims 30-35, how does the small diameter part correspond to the expansion of the receiving hole, i.e. corresponding in location?

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary.

Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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9. Claims 20, 22, 27 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Skidmore(-348) in view of Surface(-828).

Skidmore(-348) discloses a mixing device for manufacturing moldings including a main cylinder 11 connected to a metal mold 24 for forming the moldings, a main screw 13 rotated in the main cylinder 11 for mixing resin material and for delivering the same to the metal mold 24, a main throw-in machine 14 connected to the main cylinder 11 at a start end part thereof for throwing a first material into the main cylinder 11, a sub-throw-in machine 20 connected to the main cylinder 11 at a part between the metal mold 24 and the main throw-in machine 14 for throwing a second material into the main cylinder 11, a second material holding part 20 for holding the second material, a sub-throw-in hole 20 for delivering the second material to the main cylinder 11, and a receiving hole 23 positioned in the main cylinder 11 between the metal mold 24 and the main throw-in machine 14. The receiving hole 23 is a vent hole 23. Note that a vent hole 21, the sub-throw-in hole and the receiving hole 23 define a plurality of receiving holes in a direction of extrusion. However, Skidmore(-348) does not disclose a rotating direction side of the main screw in a cylinder inner wall of the receiving

hole of the main cylinder being formed in such a manner as to expand the receiving hole.

Surface(-828) discloses a mixing device including a main cylinder 18, 34, a main screw 20 rotated in the main cylinder 18, 34, a receiving hole 44 in the main cylinder 18, 34 defining a vent hole 44, wherein a rotating direction side of the main screw 20 in a cylinder inner wall of the receiving hole 44 of the main cylinder 18, 34 is formed in such a manner as to expand the receiving hole 44 which prevents material in the mixing device from entering or obstructing the receiving hole 44 (i.e. see abstract).

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the mixing device of Skidmore(-348) such that a cylinder inner wall of the receiving hole of the main cylinder is formed in such a manner as to expand the receiving hole because such a modification would prevent material in the mixing device from entering or obstructing the receiving hole as disclosed by Surface(-828).

10. Claims 24 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over k as applied to claims 20, 22, 27 and 28 above, and further in view of Bilhorn(-904).

Bilhorn(-904) discloses a mixing device including a sub-throw-in machine 12 which includes a sub-screw rotated in a sub-

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cylinder for throwing materials into a main cylinder 2 of the mixing device (see fig. 1).

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to further modify the device such that the sub-throw-in machine includes a sub-screw rotated in a sub-cylinder because such a modification would provide an art-recognized alternative configuration for a sub-throw-in machine as disclosed by Bilhorn(-904) for throwing materials into a main cylinder of a mixing device.

11. Claims 30-35 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

12. The following is a statement of reasons for the indication of allowable subject matter: the prior art of record does not teach or suggest, as a whole, a mixing device as recited by instant claims 30-35, particularly the rotating direction side of the main screw in the cylinder inner wall of the receiving hole of the main cylinder being formed in such a manner as to expand the receiving hole, and the main screw having a small-diameter part, the diameter of which is made smaller than that of other parts of the main screw, corresponding to the expansion of the receiving hole.

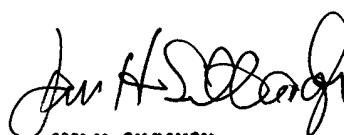
13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Schott, Jr. (-510), Otake(-150), Hotz(-765), Ronzoni(-292), Picard(-510), Eppler(-659), Roehlig et al.(-348) and Varn(-030) each disclose a receiving hole of the main cylinder being formed in such a manner as to expand the receiving hole.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Leyson whose telephone number is (703) 308-2647. The examiner can normally be reached on M-F(8:30-6:00) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jan Silbaugh can be reached on (703) 308-3829. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

QJ
jl
October 29, 2002


JAN H. SILBAUGH
SUPERVISORY PATENT EXAMINER
ART UNIT 1722

10/29/02